ಬೆವಿಕಂ
BESCOM

ಬೆಂಗಳೂರು ವಿದ್ಯುತ್ ಸರಬರಾಜು ಕಂಪನಿ ನಿಯಮಿತ

Bangalore Electricity Supply Company Limited

(ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ಸಂಪೂರ್ಣ ಸ್ವಾಮ್ಯಕ್ಕೆ ಒಳಪಟ್ಟಿದೆ)

ಸಂಖ್ಯೆ: ಬೆವಿಕಂ/ಪ್ರವ್ಯ(ಖ)/ಉಪ್ರವ್ಯ/ಸಪ್ರವ್ಯ(ಖ3)/ಬಿಸಿ–10/
2023–24/8643

ದಿನಾಂಕ : 01 MAR 2024

ಸ್ವಾತಂತ್ರ್ಯ ಅಮೃತ ಮಹೋತ್ಸವ

ಪ್ರಧಾನ ವ್ಯವಸ್ಥಾಪಕರು (ವಿ) ರವರ ಕಛೇರಿ,
ಖರೀದಿ ಶಾಖೆ, 4ನೇ ಮಹಡಿ, ಕಂಪನಿ ಕಾರ್ಯಾಲಯ,
ಕೆ.ಆರ್ ವೃತ್ತ, ಬೆಂಗಳೂರು–560 001.
ದೂರವಾಣಿ ಸಂಖ್ಯೆ : 080 22354939.
ಇಮೇಲ್ ವಿಳಾಸ gmproc.work@gmail.com

AMENDMENT

Sub: Conversion of 11kV/LT OH Line into UG Cable system/11kV Covered Conductor and LT AB Cable which are left out during execution of overhead to UG project in N9 Sub Division of Jalahalli Division, Bangalore North Circle, BESCOM for a period of 2 years under TTK on percentage quoting basis. Amount Put to Tender : 18.25 crores – Reg.

Ref:
1. Bid Enquiry No: BESCOM/2023-24/EL/WORK_INDENT135
2. Pre Bid meeting held on 26.02.2024
3. MD, BESCOM Approval dated: 01.03.2024

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Tender has been invited for vide indent No. : BESCOM/2023-24/EL/WORK_INDENT135 (APT – 18.25 crores) Conversion of 11kV/LT OH Line into UG Cable system/11kV Covered Conductor and LT AB Cable which are left out during execution of overhead to UG project in N9 Sub Division of Jalahalli Division, Bangalore North Circle, BESCOM for a period of 2 years under TTK on percentage quoting basis.

With respect to this tender enquiry, prospective Bidders have noticed in the tender document and informed this office to issue clarification/ amendments regarding amount put to tender.

Consequent to the above & as per the approval vide reference (2), following amendment is issued for the indent No. : BESCOM/2023-24/EL/WORK_INDENT135 (APT – 18.25 crores):

Sl. No	Clause No	Clarifications/Queries of the Prospective Bidders	Clarifications Issued
1	Technical Specifications Clause 8.03	"For HT cable - Please note that for 3 core 11 kV HT cable technical specification clause 8.03.00 stated as 'The metallic screen with armour shall be designed to carry the short circuit rating for 1 second, but no short circuit current given for copper screen and armour. So please review & provide the short circuit current for copper screen & armour for 3C x 95 sqmm & 3C x 400 sqmm cable sizes."	The metallic screen with armour shall be designed to carry the minimum Short Circuit rating for 1 second by the Manufacturer and the same shall be furnished in GTP. The approximate Short Circuit current calculated for 3c x 95 Sqmm and 3C x 400 Sqmm cable is furnished for reference as attachment to this amendment.

Sl. No	Clause No	Clarifications/Queries of the Prospective Bidders	Clarifications Issued
2	Technical Specifications Clause 8.03	"For HT cable-As per technical specification we understand that conductor material shall be 'Aluminium', although no details for conductor material given in BOQ. Kindly confirm"	The material for conductor shall consists of plain Aluminium of H2 or H4 grade as per clause 3 of IS:8130/1984
3	Technical Specifications Clause 3.1.8 Note (b)	"Against clause 3.1.8 Note (b) - Dia of compacted conductor shall be as per manufacturer standard, requirement of tolerance of +5% on conductor diameter is irrelevant. So please confirm."	Tender Condition Prevails
4	--	Please provide technical specification for 'Coyote conductor' and 'Weasel conductor and also provide the conductor material	There is no such item in BOM.

All other terms & conditions of the Bid Enquiry remain unaltered.

General Manager (Ele.,),
Procurement, BESCOM.

BANGALORE ELECTRICITY SUPPLY COMPANY LIMITED

(Wholly owned by Government of Karnataka Undertaking)

CALCULATION OF SHORT CIRCUIT RATING FOR CONDUCTOR CU TAPE & ARMOUR

6.35/11kv (E) x 3c X400 Sq.mm A2XWY Cable

SHORT CIRCUIT RATING FOR CONDUCTOR

Short circuit current Ish		=KA/√t
Where	Ish	:Short Circuit Rating in KA
	K	:0.0944 for Aluminium conductor (XLPE insulated)
	A	:Area of Aluminium Conductor
	t	:Duration of short circuit in seconds (1 Second)
Thus	Ish	=0.0944x400/√1
		=37.76KA for 1 Sec.Duration

SHORT CIRCUIT RATING FOR COPPER TAPE

Short circuit current Ish		=KA/√t
Where	Ish	:Short Circuit Rating in KA
	K	:0.1283 for Copper Tape
	A	:Area of Copper Tape per Core=50x0.045=2.25 Sq.mm
		:Area of Copper Tape (Three cores together)=2.25x3=6.75 Sq.mm
	t	:Duration of short circuit in seconds (1 Second)
Thus	Ish	=0.1283x6.75/SQRT(1)
		=0.866 for 1 Sec (All three cores together)

SHORT CIRCUIT RATING FOR ARMOUR

Short circuit current Ish		=KA/√t
Where	Ish	:Short Circuit Rating in KA
	K	:0.0464 for G.S Wire
	A	:Area of G.S Wire
		:Area of G.S Wire Armour
	t	:Duration of short circuit in seconds (1 Second)
SIZE (Nom.Diameter)		:4.0mm +/- 0.1 mm
No. of ARMOUR WIRES		:51
Total Area of Wires		:609.24 Sq.mm
	Ish	=0.0464x609.24/√1
		=28.26 KA for 1 Sec

28/2/24

General Manager (El.)
Quality Standards and Safety,
BESCOM

BESCOM

BANGALORE ELECTRICITY SUPPLY COMPANY LIMITED

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CALCULATION OF SHORT CIRCUIT RATING FOR CONDUCTOR CU TAPE & ARMOUR

6.35/11kv (E) x 3c X95 Sq.mm A2XWY Cable

SHORT CIRCUIT RATING FOR CONDUCTOR

Short circuit current lsh		=KA/√t
I	lsh	:Short Circuit Rating in KA
	K	:0.0944 for Aluminium conductor (XLPE insulated)
	A	:Area of Aluminium Conductor
	t	:Duration of short circuit in seconds (1 Second)
Thus	Lsh	=0.0944x95/√1
		=8.96KA for 1 Sec.Duration

SHORT CIRCUIT RATING FOR COPPER TAPE

Short circuit current lsh		=KA/√t
Where	lsh	:Short Circuit Rating in KA
	K	:0.1283 for Copper Tape
	A	:Area of Copper Tape per Core=40x0.045=1.8 Sq.mm
		:Area of Copper Tape (Three cores together)=1.8x3=5.4 Sq.mm
	t	:Duration of short circuit in seconds (1 Second)
Thus	Lsh	=0.1283x5.4/SQRT(1)
		=0.69 for 1 Sec (All three cores together)

SHORT CIRCUIT RATING FOR ARMOUR

Short circuit current lsh		=KA/√t
Where	lsh	:Short Circuit Rating in KA
	K	:0.0464 for G.S Wire
	A	:Area of G.S Wire
		:Area of G.S Wire Armour
	t	:Duration of short circuit in seconds (1 Second)
SIZE (Nom.Diameter)		:2.5mm +/- 0.065 mm
No. of ARMOUR WIRES		:54
Total Area of Wires		:251.46 Sq.mm
	Ish	=0.0464x251.46/√1
		=11.66 KA for 1 Sec

28/2/24

General Manager (El.)
Quality Standards and Safety,
BESCOM